

### **Remarks**

The claims are objected to under 35 USC §103 with respect to the need to show the “optical gate comprising a slave local clock.” The Applicants have amended Claims 24, 38 and 46 to remove “slave local” from that phrase, thereby rendering that objection moot. However, Claims 24, 38 and 46 have been amended to recite that the master clock controls the clock of the optical gate. This is supported in the Applicants’ Specification in paragraphs [0042]-[0043]. Fig. 3 has thus been amended. A replacement Fig. 3 is enclosed.

Claims 24-38 and 40-46 stand rejected under 35 USC §112 as failing to comply with a written description requirement. The Applicants note with appreciation the Examiner’s helpful comments with respect to independent Claims 24, 38 and 46 and the phrase “an optical gate comprising a slave local clock.” As noted above, the Applicants have amended Claims 24, 38 and 46 to remove “slave local” from that phrase. The Applicants therefore respectfully submit that the rejection is now moot. Withdrawal of the rejection is respectfully requested.

Claims 24-38 and 40-46 stand rejected under 35 USC §112 as being indefinite. The Applicants again note with appreciation the Examiner’s comments concerning the recitation of more than one “a slave local clock” in Claim 24. Again, that phraseology has been removed in its second iteration in each of those claims. Withdrawal of that portion of the rejection is respectfully requested.

The Applicants further note with appreciation the Examiner’s helpful comments concerning the use of “type” in Claims 24, 34, and 36. That term has been removed from all three claims. For clarity, the Applicants have substituted “(NRZ)” in place of “type” in all three claims. This clarifying abbreviation may be found in paragraph [0054] of the Applicants’

original Specification. All three claims have further been amended to include “(RZ)” with respect to the “return to zero” phraseology. This clarifying abbreviation may be also found in paragraph [0054] of the Applicants’ Specification. Entry into the official file and withdrawal of the balance of the rejection under §112, second paragraph, is respectfully requested.

Claims 24, 29-32 and 38-39 stand rejected under 35 USC §103 over the hypothetical combination of Akiyama and Hait with Wolf. The Applicants note with appreciation the Examiner’s detailed comments hypothetically applying that combination against those claims. The Applicants nonetheless respectfully submit that even if one skilled in the art were to make that hypothetical combination, the process and apparatus resulting from that combination would still be quite different from the subject matter set forth in Claims 24, 29-32 and 38-39. Reasons are set forth below.

The Applicants first agree with the Examiner’s frank acknowledgement that Wolf does not teach modulating the information to be transmitted by a carrier realized per channel and formatting the multiplexed signal by an optical gate. Thus, the rejection turns to Hait to cure that deficiency. Nonetheless, the rejection again acknowledges that the combination of Hait and Wolf does not disclose that the optical gate is controlled by a clock. Thus, the rejection turns to a tertiary publication, namely Akiyama, to provide such teachings. However, the Applicants respectfully submit that Akiyama fails to cure the deficiencies with respect to all of the subject matter set forth in Claims 24, 29-32 and 38-39. In that regard, the Applicants respectfully submit that all of Akiyama, Hait and Wolf fail to disclose, teach or suggest the Applicants’ claimed “reformatting a non-return to zero (NRZ) formatted, multiplexed signal to a return to zero (RZ) multiplexed signal with an optical gate comprising a clock” and “a master clock controlling the clock of said optical gate.” This claimed aspect provides for a robust

transmission as taught in paragraph [0054] of the Applicants' Specification which specifically states that the "Optical gate 1 performs the conversion of the NRZ coding into RZ permitting a robust transmission." This is an advantageous feature not taught by any of Akiyama, Hait and Wolf.

Thus, turning to Akiyama does not cure this deficiency. While Akiyama may disclose controlling a logic gate by a clock, it does not disclose, teach or suggest the claimed aspect of reformatting a non-return to zero (NRZ) formatted, multiplexed signal to a return to zero (RZ) multiplexed signal with an optical gate comprising a clock. Thus, in Akiyama, the optical gate is used to extract a channel component from an optical signal such as described in paragraphs [0007]-[0009] and Figs. 1 and 2. However, there is no disclosure of reformatting an NRZ formatted, multiplexed signal to an RZ type multiplexed signal.

Hait is also insufficient to cure the deficiencies of both Akiyama and Wolf. The optical gates in Hait are photonic gates used to perform a serial-to-parallel conversion. However, there is no disclosure, teaching or suggestion of reformatting an NRZ formatted, multiplexed signal to an RZ multiplexed signal.

As a consequence, even if one skilled in the art were to hypothetically combine Akiyama and Hait with Wolf, the result of that combination would still not disclose, teach or suggest the Applicants' step of reformatting an NRZ formatted, multiplexed signal to an RZ multiplexed signal and do not disclose, teach or suggest performing such a step with an optical gate. Withdrawal of the rejection of Claims 24, 29-32 and 38-39 is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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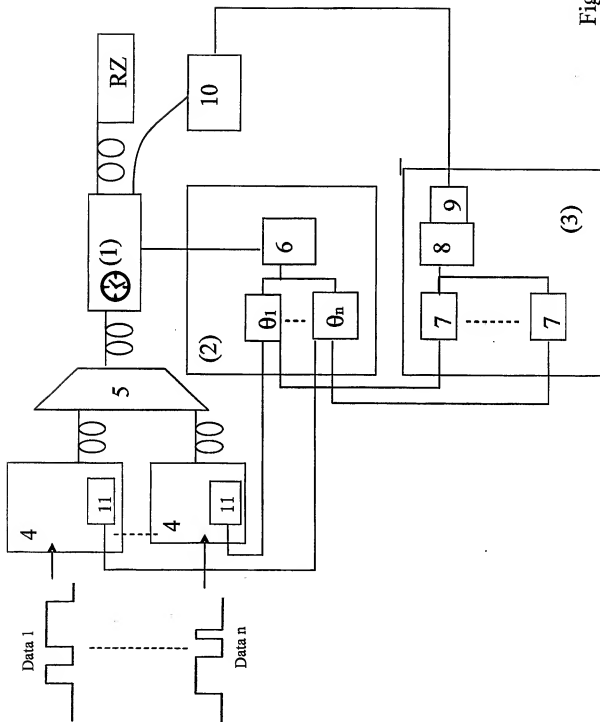


Figure 3